UI BULLETIN # 79 C

SUBJECT: Power Take-Off (PTO) Subsystem Features

MODELS AFFECTED:
C/K 3500 Heavy Duty Chassis Cab Chevrolet Silverado and GMC Sierra

MODEL YEAR(S):
2007 – 2013

DATE: 12/05/2006

REV. DATE: 01/07/2013

ADVISORY:

This bulletin provides a brief description of the PTO option offered on Heavy Duty Silverados and Sierras. The PTO Subsystem option includes all of the components & wiring for a tested, functional system as ordered from the factory.

The bulletin shows the location of the following components included with the option:
1. New Driver control switch.
2. New PTO module
3. New 16-way connector for user interface.

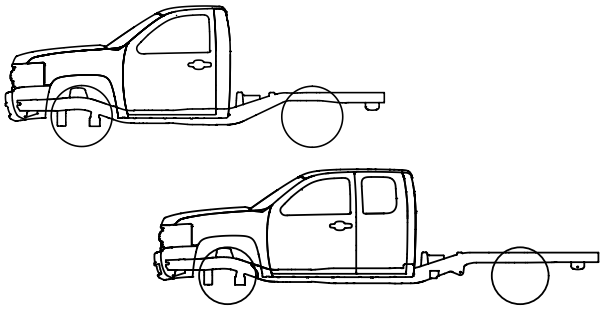
The bulletin contains the following sections:
1. System Overview.
2. Detailed Functional Description
3. Standard vs. Optional Features

Note: This bulletin addresses the “All New” not the “Classic” C/K truck.
The PTO option can’t be added or retrofitted if not included as ordered!

System Overview

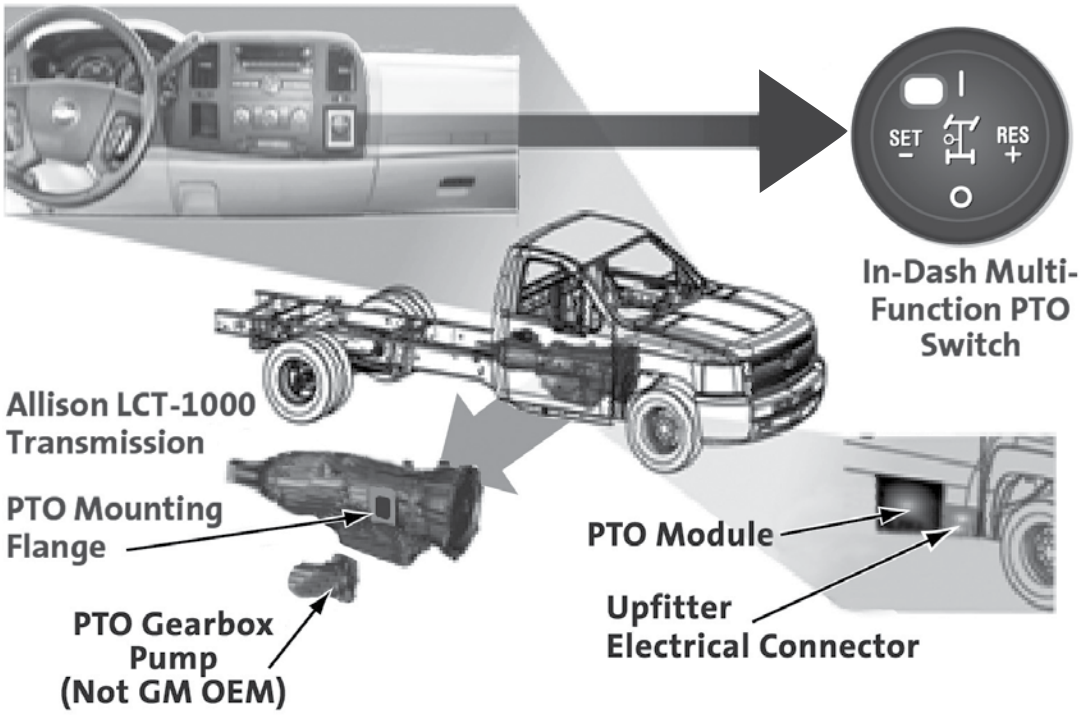
Vehicle Configuration

- HD cab-chassis trucks
- Regular (03) and extended (53) cabs
- Duramax (6.6L) diesel engine with the Allison LCT-1000 transmission



PTO Location

- Factory-installed in-dash PTO switch
- Upfitter electrical connector for single-point interface with PTO sub-system
- No new PTO gearbox/pump necessary – fits in the same location as on the previous model



Types of PTO Operation

- Stationary
- Preset – Factory Installed
- Variable – Dealer Option
- Mobile Variable – Dealer Option

PTO vs. Cruise Control

- Whereas Cruise Control manages ***vehicle*** speed, PTO controls ***engine*** speed
- **Cruise Control**: *Engine* speed can vary up and down, but *vehicle* speed remains constant
- **PTO**: In mobile variable mode *vehicle* speed can vary up and down, but *engine* speed remains constant

Detailed Functional Description

Please note: The icons below are part of the In-Dash Multi-Function PTO Switch

Stationary Preset PTO

(Factory Installed)
Applications: Dumping, Liftgates, etc.

- Three PTO Speeds
  - **Standby (800 RPM)**: Achieved when the button is initially depressed
  - **Preset #1 (1250 RPM)**: With PTO active, this speed is reached by pressing
  - **Preset #2 (1700 RPM)**: With PTO active, this speed is reached by pressing
- Standby & Preset Speeds can be altered by a GM Service Technician using a Tech 2
- Remote Operation is optional in this mode

Stationary Variable PTO *(option)*

Applications: Dumping, Liftgates, Bucket Trucks, etc.

- Functions similar to cruise control
- Initially PTO is engaged at Standby (800 RPM)
- PTO Speed Adjustment Features
  - **Set/Resume**:
    - Choose engine speed using accelerator pedal, press to maintain this engine speed
    - Resume after dropping out of PTO (e.g. after traffic signal) by pressing
  - **Tap Up/Tap Down**:
    - Increments engine speed UP using
    - and DOWN by pressing
    - Default increment is 100 RPM

Stationary Variable PTO *(option)* *(continued)*

- **Ramp Up/Ramp Down**:
  - Ramps engine speed gradually while
  - or
  - buttons are pressed
- Increment and Ramp Rate can be altered by a GM Service Technician using a Tech 2
- Remote Operation is available in this PTO mode

Mobile Variable PTO *(option)*

Applications: Salt & Fertilizer Spreaders, Street Sweepers, Plow Blades, etc.

- Possible alternative to a Central Hydraulic System
- Functions similar to Stationary Variable PTO
- Can be used at speeds up to 80 mph; however, the default maximum speed is 50 mph.
- Remote Operations is ***not*** available in this PTO mode

Remote Operation

- Available in Stationary PTO modes only
- Allows operator to utilize PTO features from a Remote Operation pendant
- Remote options are accessed through after-market PTO controls attached to the OEM PTO Upfitter connector
- Remote Engine Start/Shutdown
  - Start requires multiple switch actions to initiate engine starting
  - Shutdown has 3 modes of operation
    - + Operator remote switch
    - + Timed auto shutdown
    - + Critical engine conditions

Detailed functional description continued on next page

Detailed Functional Description

Stopping PTO

- Two methods:
  - **Ramp-to-Off**
    - Achieved by pressing
    - Engine speed ramps down to base idle
    - PTO disengages and shuts off
  - **Suspend/Resume**
    - Achieved by pressing the brake pedal
    - Engine speed drops to base idle (no ramp)
    - PTO disengages, but previous PTO speed retained in memory; can resume after brake is released or by pressing

Stationary Preset PTO

- **Fast blink**: Indicates PTO in the process of engaging
- **Solid**: PTO is engaged
- **Slow blink**: PTO is suspended, but PTO speed is retained in memory

PTO Load Control *(Option)*

- Provides operator with greater control over engagement of PTO
- Load can be programmed to remain enabled all the time (e.g. when stopped at a traffic signal)
- Load may be engaged within a programmed RPM range
- ***No other OEM has this feature***

STANDARD vs. OPTIONAL FEATURES

	Enabled	Disabled
Stationary Preset PTO		
Standard Configuration		
• In-Cab PTO Controls	O	
• Remote Operation Controls		X
• Engine Run Time in PTO		X
• Load Feedback		X
• Initial PTO Speed	800 RPM	
• Preset Speed #1	1250 RPM	
• Preset Speed #2	1700 RPM	
Optional Configuration		
• In-Cab PTO Controls	O	X
• Remote Operation Controls	O	X
- Relay (not OEM)	O	X
- Engine Start Switch	O	X
- Engine Shutdown Switch	O	X
- Set Switch	O	X
- Set Switch Type	Momentary or Latched	
• Engine Run Time in PTO	O	
• Load Feedback	O	
• Initial PTO Speed	Calibrateable	
• Preset Speed #1 & #2	Calibrateable	
Stationary Variable PTO		
Standard Configuration		
• In-Cab PTO Controls	O	
• Remote Operation Controls		X
• Engine Run Time in PTO		X
• Load Feedback		X
• Initial PTO Speed	800 RPM	

	Enabled	Disabled
Stationary Variable PTO (*Cont'd*)		
Optional Configuration†		
• Remote Operation Controls		
- Pedal Position Switch (PPS)	O	X
- PPS Voltage	Min & Max Calibrateable	
Mobile Variable PTO		
Standard Configuration		
• Action after brake pedal is released?	Return to Base Idle	
• Load Feedback		X
• Initial PTO Speed	800 RPM	
Optional Configuration†		
• Action after brake pedal is released?	Return to PTO Standby	
• Load Feedback	O	
• Initial PTO Speed	Calibrateable	

O = Enabled X = Disabled
† = Optional features include those listed for Stationary Preset PTO excluding Preset Speed #1 & #2 calibrateability.